IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:		§	
		§	
	Shlomo SHKOLNIK	§	
		§	
Serial No.:	09/914,487	§	
		§	
Filed:	August 27, 2001	§	Group Art Unit: 2123
		§	
For:	MULTIDISCIPLINARY PROJECT INTEGRATION SYSTEM	§	Attorney Docket: **36538**
Examiner:	Jason Scott PROCTOR	§	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF IN RESPONSE TO EXAMINER'S ANSWER ON APPEAL

Sir:

Further to Examiner's Answer issued on November 21, 2008 in response to the Appeal Brief filed on October 7, 2008, Appellant files the following remarks.

REMARKS

Claims 23-26, 30, 31, 41, 42, 51, 72-76 and 80-92 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Thackston (US Patent No. 6,295,513) in view of Carver (US Patent No. 4,937,768).

According to the Examiner, Thackston teaches all the elements of the invention as claimed, but does not explicitly teach a "vehicle" example and Carver, which is directed to a vehicle design system, makes it obvious to apply Thackston to a vehicle.

In the first part of the reply, the Examiner repeats his rejection to which Appellant filed an Appeal on October 7, 2008. In the Appeal, Appellant disagreed with the Examiner and submitted that Thackston fails to teach additional elements of the claims. Since Appellant has already presented his arguments regarding these rejections, the arguments will not be repeated, except to say that appellant stands by his position.

Starting on page 23, the Examiner responds to Appellant's arguments on appeal. Appellant will refer to these responses in his remarks below.

Before relating to the specific arguments, Appellant would like to provide a short summary of the prior art and claims of the application, since this puts the Examiner's reply into proper perspective.

Designing a system such as a vehicle is a complex task which involves a plurality of working groups, each group designing different parts. Since a vast amount of information is involved, large databases are used, storing the information required and used by all of the groups. This poses three problems. The first is the problem of confidentiality, since unauthorized access to the database means that information pertaining to each group is available to all the workers and all the groups. The second problem is also security related, since changes made in the database impact not only those making the changes but also other parts of the system that others are in charge of. The third is the shear size of the databases and the lack of portability this entails.

The prior art has solved these problems in various ways.

For example, the prior art has provided that only limited access is allowed for some users to parts of the database. In addition, the prior art has provided that users may be restricted in changing elements of some items of the database to which they have access. For example, a worker assigned to a specific group will be authorized to access all the information relating to his group and only to limited information of other groups. In addition, the ability of a worker to change an element in the database is limited and is subject to approval by the group manager.

This prior art solution provides all required functions for designing a system,

however, these prior art solutions do not provide a solution for the problems of usability and portability. For a large vehicle, the size of the database is enormous and the user must be connected to the central database to work. The designed system usually includes at least thousand of parts to be designed. For example, Boeing 747 comprises about 4 million parts. Thus, such databases used for designing such systems are extremely big, non-portable and cumbersome in use. Communication and searching in such a database is slow and the database would provide limited utility for the users.

The cited art of Thackston provides for the setting up of ad hoc scratch pads by users to which a copy of a design part is downloaded. This enables the user to work on a part without changing the information on the part in the database. These scratch pads include the parts needed for the design task and certain other parts with which the design interacts. However, such scratchpads are specific for specific tasks and are, by their nature, accessible only by the particular design group. Furthermore, there is no provision for changing the data for parts for which the user of the database is not responsible.

The inventor of the present application discovered another approach which is easier in use and provides a relatively small and portable database for communication between the designers. This approach comprises, in addition to the databases for each group for which it is responsible, a central database, or index, which is accessible by all groups. This index includes only non-confidential information and includes mainly information required by other groups (for example, interface information). Thus, the index, which is accessible by all workers, enables access to information relating to all groups which is non-confidential and may be required by the different groups for coordination between the parts. Accordingly, the index is also much smaller in size than the total databases of each group, as it does not include any of the confidential information.

The index used by the system described in the application focuses on communication between different groups of the system. It is emphasized that the index does not replace the databases used by each group but is an addition thereto and enables coordination between the groups.

This approach is described in the claims in different manners. For example, independent claim 23 recites "wherein storing the information in the index comprises storing only information which is authorized for viewing by workers assigned to any of the plurality of systems". Independent claim 72 recites "selecting a plurality, but fewer than 10%, of the physical elements of each system of the vehicle to serve as major elements of the vehicle; gathering, for each of the major elements, information regarding

the element ... storing the gathered information in a database, having records only for the major elements". Claim 82 recites "generating a database including information on the relationship between elements of the vehicle from the various systems, but including information on fewer than all the elements of the vehicle, said database being open to viewing by workers assigned to a plurality of said systems". Claim 86 recites "selecting fewer than 10% of the physical elements of each of the systems of the vehicle to serve as major elements of the vehicle; gathering, for each of the major elements, information regarding the element ... storing the gathered information in a database, having records only for the major elements". Claim 87 recites "(b) providing a database containing information regarding fewer than all the parts needed for using any of the design tools and having information regarding parts used for a plurality of said design tools; (c) providing access to the database to authorized users of more than one design tool;"

Independent claim 92 refers to the assignment of worker codes and recites "having a database that associates each of the worker codes with one or more workers responsible for the design, such that changing worker assignments does not require changes in the part numbers". Appellant will now refer to the Examiner's new arguments presented in his Answer to Appeal.

The Examiner argues on page 23 of his Answer that Appellant seeks a patent based on the concept of the claimed "design index" which stores some, but not all, of the relevant information and the Examiner finds this to be analogical to a traditional telephone book, which is an index of telephone numbers. The telephone company has a listing of every telephone number, however some of the telephone numbers are marked as unlisted and are not authorized for viewing by the public. Appellant understands this argument to mean that the person of ordinary skill in the art knowing about telephone books which do not list all subscribers would have reduced the size of databases to include fewer than all the parts in a system.

The Examiner has explained that "Appellant's invention applies this very same concept for a computer aided design (CAD) environment for a vehicle. The environment comprises a plurality of CAD tools where each tool stores information about a plurality of elements for the vehicle. At least one CAD tool contains at least some information that is not authorized for viewing by persons outside a designated group ("restricted information"). This type of restriction is often used to provide security for the sensitive and proprietary CAD designs during the engineering process. The invention gathers information from the CAD tools and inserts the gathered information into an index, but does not insert the "restricted information" into the index. This produce an index, termed

a "design index", which stores some, but not all of the available relevant information.

The complete set of relevant information comprises all the information on all of the CAD tools. The "design index" includes only the information which is authorized for viewing by the public, and therefore does not include the "restricted" information."

Appellant respectfully disagrees with the Examiner and submits that there are a number of significant differences between the claims of the present application and such a traditional telephone listing that would not lead a person of the art to produce a reduced database in the claimed manner. The claims are to be read in their context which Appellant will refer to below.

Appellant submits that it is not the reduction in size per se that is at issue, rather the analogy of the telephone book, to the extent that it is analogous, does not teach how to provide a reduced database as claimed. As indicated below, none of the claims which define a limitation in size is so broad as to cover any reduction in size, but rather each limitation defines an aspect of how this is done.

As will become clear below the Examiner has generalized the invention such that this explanation of the scope of the invention does not take into account the specific limitations of the various claims.

The Examiner has provided an emphasized copy of claim 23 where, according to him, this concept is found:

"A method of forming **a vehicle design index**, comprising:

providing a plurality of computerized design tools, said tools being adapted for carrying out a design task of a particular system of a vehicle, **at least some of which tools store information restricted to viewing by a respective limited group of workers**, which workers are assigned to a particular system or systems of the vehicle;

gathering, by a computer, from the plurality of computerized design tools, **information on elements of different systems of the vehicle, wherein the gathering includes retrieving from at least one of the computerized tools information on fewer than all the elements of the vehicle required for design of the system described by the tool**;

storing the gathered information in the index; and

opening the index for viewing by workers at least some of which are assigned to a different systems of the vehicle from each other,

wherein **storing the information in the index comprises storing only information which is authorized for viewing by workers assigned to any of the plurality of systems**."

The Examiner further states that the other independent claim present similar concepts using various different terminology, such as "selecting fewer that 10% of the physical elements" (claim 86), "providing a database containing information regarding fewer than all the parts" (claim 87), etc.

Appellant submits that the Examiner is correct that many of the inventive concepts of the present application are aimed at reducing database size. However, the Examiner errs in his analogy between a telephone listing and the *claimed* concepts. Since the Examiner referred specifically to claim 23, Appellant will focus his arguments on this claim. The same arguments apply to the rest of the claims which have similar recitations.

The type of information gathered for a telephone listing is substantially different than the information gathered in the claimed invention. Claim 23 specifically requires: "gathering, by a computer, from the plurality of computerized design tools, information on elements of different systems of the vehicle, wherein the gathering includes retrieving from at least one of the computerized tools information on fewer than all the elements of the vehicle required for design of the system described by the tool". While the telephone index does not include some of the telephone numbers, this is totally irrelevant to the requirement of retrieving information on fewer than all the elements of the vehicle required for design of the system. In the telephone book, each entry has its own independent function. Knowing that restricted phone numbers are not published would not lead a person of the art to delete, from a database, elements which are necessary for functioning of the design tool from which they are gathered. The analogy and any obvious argument based on it do not make sense.

The telephone index does not change its function by eliminating some of the numbers. In contrast, the index gathered in the claims looses a function of providing information required for designing a system. The index provides for communication between different design groups but looses a function of serving as a database for a specific design group since it does not include all the information required for design of the parts by the group.

Thus, the Examiner erred in suggesting an analogy between the claims and a telephone index, simply because the type of information and function of the index is substantially different between the two and the effect of deletion is different.

Furthermore, a person of ordinary skill in the art would not apply a telephone index to designing a system such as a vehicle. A telephone index is required for providing a listing of telephone numbers to people. However, the prior art design

systems had provided all the required information in databases and provided all the functionalities required for designing a system. The prior art design systems did not have a need for an additional index. It is the inventor of the present application who discovered that adding an additional index, in addition to the existing databases, would simplify the use of the design systems. Such an additional index is not suggested or taught by a telephone index.

The Examiner then refers to Thackston in an attempt to show how the present claims are obvious over Thackston. Appellant has provided in his Appeal Brief a number of reasons why the claims of the present application are unobvious over Thackston. These arguments are not repeated here, Appellant will only refer to the Examiner's response to some of Appellant arguments as provided in his answer, starting on page 23. Before relating to the specific answers presented by the Examiner, Appellant feels that it is necessary to clarify what Thackston actually teaches.

Thackston teaches a **Nicecad Server System 200** which is a central unit with which all elements of the system communicate. Thackston further discloses **a plurality of databases 210**, each relating to a specific team. See Fig. 2 of Thackston. **System 200** does not comprise a database or stores any information relating to the teams at all. The information is all stored in **databases 210** which are specific for each team and is not one big database, it is not accessible by all workers of all teams.

In his rejections, the Examiner is apparently confusing system 200 and database 210, which leads to a faulty conclusion that database 210 is accessible by all workers or that system 200 stores information relating to the teams. Following, Appellant will refer to the specific rejections and emphasize the incorrect interpretations made by the Examiner of the teachings of Thackston.

On page 25, the Examiner argues that Thackston stores less than all the information from a specific design group since Thackston discloses in the paragraphs bridging columns 15 and 16 that not all workers are allowed to save a scratch pad model from module 892 to the model data model 865:

"Stored baseline part design model data module 865 may contain the current approved version of the design referred to as the "baseline." ... Stored working copy part design model data module 892 may be used by designers and analysts as a virtual "scratch pad" for storing part design models. For example, an EAS team member who checks out the current baseline part design model from module 865 may not be permitted to "check in" that part design model. This is because it may be that only the prime contractor can authorize writing a baseline part design model to module 865. This

provides configuration control and protects the integrity of the current baseline part design model."

The Examiner has not provided the next sentence of the quote which Appellant is providing below and which removes the basis for the Examiner's rejection:

"***However, the EAS team member may use stored working copy part design model data module 892 to store a "working copy" of the part design model.***" (emphasis added)

Appellant respectfully submits that this quotation, when read in its context, is irrelevant for a number of reasons. First, while the working model is not allowed to be written to module 865, it is still stored in module 892, as seen in the emphasized section of the quotation. Both modules 865 and 892 are part of PDM data 335 which is part of a specific database 210, see Figs. 3 and 8. Thus, database 210 contains all information needed for designing the system designed by the tool. The Examiner has apparently overlooked the last sentence of the quotation leading to a misunderstanding of the operation of Thackston. The fact of whether the information is stored in one module or the other does not mean that information is missing from the database.

Second, even if such information were missing from database 210, database 210 includes information for a specific design group only and does therefore not meet the claim requirements which recite "opening the index for viewing by workers at least some of which are assigned to a different systems of the vehicle from each other". The information stored in database 210 is not open to workers of different teams, except for specific workers who are authorized to view limited information of other teams.

Third, the claim also recites" wherein storing the information in the index comprises storing **only** information which is authorized for viewing by workers assigned to any of the plurality of systems." Even if there are workers who are authorized to view some of the information stored by other teams, the database does not store **only** information which is authorized for viewing by workers of any team.

Appellant submits that while databases 210 are found in the language of claim 23, the claimed additional "index" is not the same as or analogous to database 210 as asserted by the Examiner. Referring to the language of claim 23, databases 210 of Thackston may be compared to the information stored for each tool: "at least some of which tools store information restricted for viewing by a respective limited group of workers, which workers are assigned to a particular system or systems of the vehicle". However, the claims then further recites "gathering, by a computer, from the plurality of computerized design tools, information on elements of different systems of the vehicle,

wherein the gathering includes retrieving from at least one of the computerized tools information on fewer than all the elements of the vehicle required for design of the system described by the tool". Such gathering of information, which is from and in addition to the databases used by individual groups, is neither present nor suggested in Thackston.

In addition to the above general arguments, applied to claim 23, the Examiner made more specific arguments in response regarding some of the claims (including claim 23). The following is Appellant's response to these specific arguments.

Claim 23

Appellant is providing below responses to the new arguments presented in the Examiner's Answer, in the section "Response to Arguments" starting on page 23. Appellant emphasizes that claim 23 is patentable for additional reasons which are provided in the Appeal Brief and are not repeated here.

Appellant has previously argued that **system 200** does not store any information and that all information is stored in individual databases 210. The Examiner responds by indicating that **databases 210** store the required information. Appellant reiterates his argument that even though information is stored in **databases 210**, no information is stored in **system 200**. In addition, databases 210 are individual databases for each design group and no database which includes information of elements of a plurality of groups is present in Thackston.

The Examiner supports his contention by quotes from Col. 9 in Thackston, showing that system 100 includes all the required information. Appellant respectfully points out that system 100 is defined as the system as a whole, including system 200, a plurality of databases 210 and more, see Fig. 2. Accordingly, it is clear that system 100 includes all the information required, However, system 100 does not meet the following recitation of claim 23: "wherein storing the information in the index comprises storing only information which is authorized for viewing by workers assigned to any of the plurality of systems" since it includes all the system including all information on the entire design of all the elements of the designed system some of which is restricted for viewing by only selected workers.

The Examiner on page 28 further repeats the argument that not all workers are allowed to store design modules in module 865. However, as indicated by Appellant above, the working copy is not excluded from database 210. While not all workers are authorized to store (or check in) information in module 865, the unauthorized users store

the information in module 892 which is also part of database 210. Thus, all the information is stored in the database albeit in different modules.

Appellant has also argued in his appeal brief that Thackston teaches limiting **access** to certain information while Appellant's application and claims refer to **excluding information** from the database. Thus, Appellant's database is much smaller and less cumbersome than the prior art. This is a significant improvement over the prior art of Thackston.

The Examiner responds to this argument on page 29 by merely stating that both Thackston and Appellant provide a system that provides access only to those who need it and where restricted information is made unavailable. According to the Examiner, a skilled person would plainly recognize that merely omitting information is a simpler solution than providing access restriction. The Examiner further states "If a person implementing the system of Thackston has a relatively simple design project with only a limited amount of information, it would be immediately obvious to a person of ordinary skill in the art of computer-aided design tools to simply omit the restricted information from the database."

The Examiner's reasoning errs in at least the following aspects:

First, the term "simple solution" is not clearly defined. Claim 23 refers to a method of forming a vehicle design index. The prior art does not disclose such a method for any system, so there could be no comparison between the claim and the prior art. Without some reference it is not at all obvious that such a solution, even if it were obvious for the small system (which it is not) would be obvious for a large system such as a vehicle. In fact, if the designed system is simple then the database is small and there is no need for any index which does not include all of the parts. Appellant submits that even the starting point of the Examiner's argument is incorrect.

While forming an index as defined in claim 23 may simplify the actual design of the system, forming such an index as defined by the claims might not be considered "simple". A person of ordinary skill in the art is aware that such an index should be updated with each change performed in the stored information of a specific tool. This gathering and update process is not required by the prior art which does not form an index. For small systems the prior art databases are actually simpler to generate and maintain than that of the present invention.

In addition, the fact that one solution is simpler than another does not provide basis for an obviousness rejection. In fact it is often considered an indicator of non-obviousness. The apparent simplicity of a claimed invention does not render it more

obvious. Courts have noted that to equate simplicity with obviousness is an erroneous concept. See for example, State Indust., Inc. v. Mor-Flo Indust., Inc., [639 FSUPP 937] 639 F.Supp. 937, 945-46 [231 USPQ 242] (E.D.Tenn. 1986), aff'd mem., [818 F2D 875] 818 F.2d 875 (Fed.Cir.), cert. denied, [484 US 845] 484 U.S. 845 (1987). The question is whether the claims would have been obvious to a person having ordinary skill in the art at the time of the invention. The answer to this is no as argued throughout this document and in the Appeal Brief.

Second, the present invention does not merely constitute omission of information. All the information is present and stored in the tools. The confidential information is not duplicated and gathered to the index, but it is not omitted from the information stored in its tool. Rather it is a simpler and more effective way to provide required information to a multitude of users with different needs.

Third, Appellant's system is not designed for simple design projects with limited amount of information and limited numbers of users. On the contrary, Appellant's system is adapted for use with complicated projects which require a lot of information. The solution of gathering and storing an index is what enables simple design of a complex vehicle since it simplifies the communication or transfer of information between different design groups.

Fourth, if one would omit information from databases 210 in Thackston's system, Thackston's system could not be used for designing a vehicle. A person of ordinary skill in the art knows that in order to design a vehicle, all information on all the elements should be available to at least the workers responsible for the element. If, as suggested by the Examiner, one would omit information from databases 210, required information would be missing and would turn Thackston's system useless for design. Accordingly, it is not clear how the Examiner is applying his obviousness rejection over Thackston.

Claim 72

Claim 72 reads as follows:

"A method of providing information between workers designing a vehicle, comprising:

providing a working environment including a plurality of different departments, assigned to perform design tasks of respective different vehicle systems;

selecting a plurality, but fewer than 10%, of the physical elements of each system of the vehicle to serve as major elements of the vehicle;

gathering, for each of the major elements, information regarding the

element, including an indication of the relative assembly of the element in the vehicle and a reference to a worker in charge of the element;

storing the gathered information in a database, having records only for the major elements;

searching the database for information on one or more of the major elements; and

performing at least one of:

displaying information relating to the one or more major elements; and

sending an electronic message to a worker in charge of the element based on information found in the search." (emphasis added)

Appellant has provided a number of arguments in his Appeal Brief as to why claim 72 is patentable over Thackston in view of Carver. The arguments will not be repeated below, only the Examiner's answers will be referred to.

Appellant has previously argued that omission of elements to the extent that only 10% or 1% (as in claim 74) of the elements is found in the database, provides a new database, one which is more portable and easier to use in many ways and in addition increases the functionality. The reduction of the scope of the universal database is a patentable feature since it does not reduce the functionality of the design system but actually enhances it.

The Examiner, on page 30, responds to this argument by referring back to his telephone book analogy. Before relating to the specific arguments by the Examiner, Appellant reiterates the difference between the information gathered in a telephone book as opposed to the claimed database. This difference forms the basis of the erroneous rejection. A telephone number is a simple detail which has a single and clear purpose, enabling someone to call the owner of the number. There is no meaning in disclosing only part of the number, nor is it possible for a printed telephone book to disclose certain numbers to certain people only. The number is either published in the book or not.

In a different sense, claim 72 relates to "providing a working environment including a plurality of different departments, assigned to perform tasks of respective different vehicle systems". It is well known that the type of information relevant to such a working environment is much more complex than telephone numbers. Information that can be available to all workers of a specific department might be confidential to other departments, and might be used for different purposes by other departments.

In addition, a telephone book where not all of the numbers are listed, still serves

its function of a telephone book. However, as will be acknowledged by persons of ordinary skill in the art, a design database where not all the information is stored is useless. A group designing a tool is required to have access to at least all the information related to the tool he is designing. Accordingly, an analogy between a telephone book and a design system will fail, at least as detailed below.

The Examiner states on page 30: "It would be obvious to a person of ordinary skill that 10% of a phone book does not provide a phone book that 1) has the same functionality as a complete phone book, and 2) has enhanced functionality; or 3) is so different from a complete phone book that it defines a patentable invention.

Appellant respectfully disagrees. A telephone book that has only 10% of the telephone numbers does not have any enhanced functionality. At most, it looses some functionality since it does not provide information on all the numbers. The only functionality required from a telephone book is to provide telephone numbers. A telephone book that does not include 90% of the information required will still provide telephone numbers, but only to a limited extent of 10% of the numbers.

A person of ordinary skill in the art would think that a design database that has only 10% of the information does not just decrease its functionality but is in fact useless. It is the inventor of the present application that has recognized the non obvious fact that adding such a restricted database to a design system will increase functionality of the system as a whole since it will provide an easy method of providing information between workers designing a vehicle.

In addition, the Examiner ignored the following recitation of claim 72: "selecting a plurality, but fewer than 10%, of the physical elements of each system of the vehicle to serve as major elements of the vehicle". The selecting of major elements recited in the claim is what enables the gathered database to provide an enhanced functionality. The telephone book suggested by the Examiner which omits private numbers does not provide any enhanced functionality. Telephone numbers have all the same purpose of providing a number to contact the telephone owner and there is no meaning in selecting major telephone numbers to publish in a telephone book. In addition, the owners of the numbers are the ones who assign their number as private, it is not the entity who is gathering the telephone numbers that is selecting the numbers. Accordingly, it would not be possible to select telephone numbers as major elements and gather information about them only. There is just no analogy.

The Examiner further asserts that Appellant's claim of storing only 10% of a complete database clearly and factually lacks the functionality of the complete database

because it does not contain information on 90% of the parts. According to the Examiner, at the end of page 30, Appellant has removed elements from the prior art database and discovered a smaller, incomplete database. The Examiner finds this invention obvious over the art in view of the doctrine of eliminating an element and its function.

Appellant respectfully disagrees. Appellant has not reduced any functionality over the art, since Appellant has not eliminated any of the information which is needed by all the designers from the central database. The functionality of the described database with only 10% of the entries has exactly the same functionality for all of the groups as the large database. Taken together with a specific design tool it enabled the design of the parts that that design tool is capable of designing. And it does it with a smaller and more portable system that that of Thackston.

For any particular design task the present invention would require no more than the local design tool and the claimed index. Thackston would require the central system 200 and *all* of the databases 210. The difference in size can be the difference between portability and lack of portability.

The Examiner is reading into the claims more than is actually claimed. Claim 72 does not require that the information be deleted from the system. All that is required by claim 72 is information be gathered and stored in a database. This information is on major elements only, which comprise less than 10% of the physical elements. The claimed database includes much less information than the sum of the databases for each group, however, the claims do not require deletion of any information from the system. The claimed database provides enhanced functionality since it includes only a limited amount of information, on the major elements of the system. Thus, information on major elements, which is what is usually required to be communicated between the departments, is available in this small, compact and easy to use database.

The Examiner then refers to Thackston and repeats his argument that not all of the information is stored in Thackston's database. Appellant reiterate his response to this argument as provided above, the section from Thackston (the paragraph bridging cols. 15 and 16) on which the Examiner bases his argument does not show that not all the information is stored in the database. On the contrary, the quoted section shows that all the information is stored albeit in different modules of the same database.

The Examiner also notes that Thackston teaches storing fewer than 10% of the elements because on a very busy day of design work, during which numerous copies of part models are checked out and modified in numerous "scratch pads", fewer than 10% of the elements may be stored in the index. Appellant respectfully disagrees. Even

agreeing *arguendo*, that the working copy of a model is not stored, other information on the element, such as the model data model, is stored in the system. Thus, information on *all* the elements is stored in Thackston's system, even according to the Examiner's interpretation according to which some of the information on the elements is not stored.

It is clear that in order to design a vehicle, most if not all of the information should be stored somewhere and made available to at least one of the design groups. The database in claim 72 provides information on those parts of general need by multiple design groups. By doing so it simplifies the transfer of information between workers designing a vehicle. There is no claim that the database of claim 72 will replace the databases used by each individual department. As explained above, Thackston provides a different solution for providing information between workers of different departments.

The Examiner responds to this argument by stating that in the initial stages of designing a product a great number of parts are not yet designed and information on them is therefore not stored. In this case, the database would have 10% or fewer of the parts required for the project.

Appellant respectfully disagrees. Claim 72 recites "selecting a plurality, but fewer than 10%, of the physical elements of each system of the vehicle to serve as major elements of the vehicle". In the initial stages of designing a system, as suggested by the Examiner, where a great numbers of parts are not yet designed, such selecting would be made only of elements that exist in the system at the initial stage of design. In Thackston, information is stored on all the elements that exist in the system at a specific time. Accordingly, no selecting as recited in the claim is performed by Thackston.

The Examiner concludes his arguments with respect to claim 72 by stating that Appellant is attempting to secure a patent for discovering an incomplete database that lacks the functionality of a complete database. This incomplete database is obvious over the prior art according to the Examiner. Appellant respectfully disagrees. In fact, an incomplete database of the type envisioned by the Examiner would not be obvious at all because it would be lacking in functionality and would not be something that a person of the art would create. Note the contrast with a telephone book.

Appellant filed claim 72 for a method of providing information between workers designing a vehicle. The claim requires gathering a database in order to perform the method. This database is "incomplete". However, Appellant is not claiming that this database replaces the database of the prior art. The only thing that this claim is replacing in the prior art, is the method of providing information between workers designing a vehicle. As such it has no corresponding feature in the prior art. It is the product of the

inventive method of the present application which teaches how one could construct and use such a database.

Accordingly, Appellant submits that the Examiner is rejecting what is not claimed. The Examiner did not show why it would be obvious to replace the method of providing information between workers with the claimed method. Appellant submits that the method of claim 72 is not obvious and is patentable over the art.

Claims 82, 86 and 87

The Examiner did not provide specific rejections to claims 82, 86 and 87 and states that Appellant's arguments reiterate the arguments provided for the claims above and are found unpersuasive. Appellant refers to the arguments provided in the appeal brief for these claims and the responses to the Examiner's Answer provided above for claims 23 and 72.

Claim 92

Claim 92 reads:

"A computer system having stored therein a database for storing parts information in a working environment including a plurality of different departments, assigned to perform design tasks of respective different aircraft systems in which at least some parts of the aircraft are assigned a worker code that indicates worker responsibility for design of that part and also having a database that associates each of the worker codes with one or more workers responsible for the design, such that changing worker assignments does not require changes in the part numbers."

The Examiner rejected claim 92 over Thackston and submits that Thackston teaches associating worker codes with one or more workers responsible for the design on col. 15, lines 7-27:

"Stored design and analysis access permission data module 860 may comprise data assigned by the prime contractor determining which teams (or team members) may access the part design model, documents and EAS processing modules. The module may also comprise data determining which teams may access certain project documents, such as specifications. A part design model generally comprises a series of geometric and topological entities. Teams, such as EAS teams, may need access to all or part of a part design model in order to carry out the analysis for their specific discipline. They may need to access specifications or other documents to perform their tasks. Likewise, those teams may need to access one or more EAS processing modules to carry out the

analysis. Stored design and analysis access permission data module 860 allows an approval authority to assign access permissions to limit access to those portions of the part design module, those specifications (or portions thereof), and those EAS processing modules as appropriate. This serves configuration control by limiting access to only those who need it."

Appellant respectfully disagrees and submits that the quoted section of Thackston teaches allowing workers *access to part design models* and does not associate worker codes with *one or more workers responsible for the design* as recited in claim 92.

Appellant could not find, nor did the Examiner provide, any reference in Thackston to assigning worker codes to workers responsible for designs and certainly not having a second database associating each of the worker codes with one or more workers responsible for the design, such that changing worker assignments does not require changes in the part numbers. As argued above, the only databases found in Thackston's system are databases 210 which include information on parts designed by individual designer groups or access permission to teams.

As disclosed in the application, providing a coding system of responsible designers simplifies changing responsible workers. There is nothing in the security access restrictions of Thackston that does this.

Accordingly, claim 92 is believed to be patentable over the cited art.

Dependent claims

The dependent claims are believed to be patentable at least by virtue of their patentable parent claim. Nevertheless, Appellant filed in the Appeal Brief a number of arguments to some of the dependent claims submitting that at least some of the claims provide further patentability over their patentable parent claim. Appellant will now refer to the Examiner's answers to these arguments.

Claim 51

Claim 51 recites "wherein at least some of the workers are associated with more than one of the worker codes." The Examiner rejected claim 51 and stated that Thackston teaches providing access codes to teams. According to the Examiner it would have been obvious to one of ordinary skill in the art that a person might belong to more than one team, and thus have more than one responsibility. The Examiner concludes that

the teaching of Thackston render it obvious to assign more than one worker code to a worker, and store those codes in a database.

Appellant respectfully disagrees for two reasons. First, as indicated by the Examiner, in Thackston *access codes* are assigned to teams and not *worker codes*. As argued above with respect to claim 92, these access codes relate to specific parts of the system and not to worker responsibilities and are therefore irrelevant to the claimed features. Second, the access codes are assigned to *teams*. It is clear that each team is responsible for only his department. Accordingly, Thackston does not meet the recitation of "wherein at least some of the workers are associated with more than one of the worker codes."

Claim 74

Claim 74 recites "wherein selecting the major elements comprises selecting fewer than 1% of the physical elements of the vehicle." Appellant submits that this is not taught nor suggested by Thackston. In rejecting claim 74 the Examiner repeats his rejection with respect to claims 23 and 72. Appellant disagrees and refers to his arguments to claims 23 and 72 above and in the Appeal Brief.

Claim 80

Claim 80 recites "initiating communication between workers designing the vehicle using different computerized tools, using information in the index." The Examiner cited Thackston col. 17, lines 34-47 as apparently teaching this recitation:

"Stored quasi-real time multimedia communications sessions data module 890 may comprise records data of multimedia communications sessions (e.g., see FIG. 9, module 978) between teams members in a concurrent engineering development project."

Appellant has previously argued and reiterates his argument that the Examiner has not provided a *prima facie* case of obviousness against claim 80 since he did not show where the claimed feature is found in the art. The cited section refers to storage of communication session. However, Thackston does not initiate such communications using different computerized tools, using information in the index as in claim 80. Accordingly, claim 80 is patentable over the cited art.

Claim 81

Claim 81 recites "wherein gathering information on elements of the vehicle comprises gathering general information authorized for viewing by workers from a plurality of departments on elements having some details restricted to viewing by a limited group of workers." The Examiner cites against claim 81 from cols. 14 and 15 of Thackston, relating to access permissions to information. Appellant has previously argued that Thackston in general and the cited section specifically, relates to access information and not to gathering of information as recited in claim 81.

In response, the Examiner repeats his argument and cites the paragraph bridging cols. 15 and 16 where the check in and out of working copy parts is described. Appellant respectfully submits that this check in and out procedure in Thackston is merely for updating a working copy by members of the same team. There is no teaching in Thackston of gathering general information authorized for viewing by workers from a plurality of departments of elements having some details restricted to viewing by a limited group of workers as recited in the claim.

Claim 83

Claim 83 recites "wherein generating the database comprises generating a database including fewer than 10% of the elements of the vehicle, utilized by the design tools in designing the vehicle." This is similar to the recitation argued with respect to claim 72 above and is patentable at least for the same reason as claim 72. The Examiner repeats his rejection with respect to claim 72. Appellant disagrees as detailed above and in the Appeal Brief.

Claim 84

Claim 84 recites "wherein generating the database comprises generating a database including information insufficient to allow performing all the design tasks of the vehicle, which can be performed by the computerized tools." This is not taught nor suggested by Thackston. Claim 84 depends on independent claim 82 which recites "generating a database including information on the relationship between elements of the vehicle from the various systems, but including information on fewer than all the elements of the vehicle, *said database being open to viewing by workers assigned to a plurality of said systems*" (emphasis added)

The Examiner argues that Thackston explicitly teaches that information required for design tasks of the vehicle is excluded from a design index by teaching that a working copy of a part model is not authorized for checking in to module 865. As argued above, Appellant disagrees with the Examiner's interpretation of Thackston and submits that even though the working copy part is not authorized for checking in to model data module 865, the working copy part is still stored in the database, in module 892.

Accordingly, claim 84 is believed to be patentable over the cited art.

Claim 88

Claim 88 recites "wherein the information gathered in the database is limited to data that is essential to each authorized user for determining possible problems connected with issues to which the worker is not assigned."

The Examiner rejects the claim over Thackston in view of Carver and states that in view of the broad and unambiguous nature of the claim language (including the term "essential" and "possible problems"), all information stored in Thackston appears to be limited by the claim. Appellant respectfully disagrees and submits that the claimed features are not taught by Thackston, giving the broadest reasonable interpretation to the claim language. As argued with respect to claims 23 and 72 above, that the information stored in each database 210 of Thackston, is limited to a specific team only. Accordingly, the information gathered in database 210 includes information of a specific team only. Thus, database 210 does not include information related to other teams and is therefore not limited to data that is essential to each authorized user for determining possible problems connected with issues to which the worker is not assigned, given its broadest reasonable interpretation. In fact, such information is not even present in database 210.

Claim 89

Claim 89 recites "wherein workers assigned to said plurality of systems includes workers assigned to all the systems." The Examiner rejected claim 89 based on Col, 15, lines 7-11 of Thackston, quoted herein: "Stored design and analysis access permission data module 860 may comprise data assigned by the prime contractor determining which teams (or team members) may access the part design model, documents and EAS processing modules." Appellant previously argued that there is no hint in the cited

section to store only information that is authorized to be viewed to workers assigned to all of the systems.

In response thereto, the Examiner states that the "prime contractor" in the quoted section would be understood to be assigned to all systems. Appellant submits that even if this is true, the claim is still patentable over Thackston. Claim 89 depends on claim 23 which recites "wherein storing the information in the index comprises storing only information which is authorized for viewing by workers assigned to any of the plurality of systems." Thus, according to claim 89, the information is authorized to be viewed by workers assigned to all the systems. This is not taught in Thackston. The quoted section describes that the prime contractor determines which team member may access the part design model, however, there is no teaching to workers assigned to all the systems being authorized to access the information in the database. On the contrary, the quoted section shows that authorization access is required for this.

Accordingly, claim 89 is patentable over Thackston in view of Carver.

Conclusion

All of the pending claims are believed to patentably distinguish over Thackston and Carver, in any combination, for at least all of the above reasons. Therefore, it is respectfully requested that the Board reverse the Examiner's final rejection for those claims.

Appellant is separately arguing the patentability of independent claims 23, 72, 82, 86, 87 and 92 and dependent claims 51, 74, 80, 81, 83, 84, 88, and 89. All the pending claims are patentable at least by virtue of their dependency from patentable independent claims.

Respectfully submitted,

By /[illegible]/ 41,016
Paul Fenster
Registration No. 33,877

Date: January 21, 2009

Enclosure:

- Request for Oral Hearing